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(19) **United States**(12) **Patent Application Publication****Hallett et al.**(10) **Pub. No.: US 2020/0143561 A1**(43) **Pub. Date: May 7, 2020**(54) **MULTI-CHANNEL SPATIAL POSITIONING SYSTEM****G06T 7/11** (2006.01)**G06T 7/277** (2006.01)(71) Applicant: **INPIXON**, Palo Alto, CA (US)(52) **U.S. Cl.****CPC G06T 7/73** (2017.01); **G01J 5/10** (2013.01);**G08B 13/196** (2013.01); **H04N 5/247**(2013.01); **G06K 9/6201** (2013.01); **G06K****9/00348** (2013.01); **G06T 7/292** (2017.01);**G06K 9/6256** (2013.01); **G06T 7/13** (2017.01);**G06T 7/11** (2017.01); **G06K 9/628** (2013.01);**G06T 7/277** (2017.01); **G06K 9/00771**(2013.01); **G06T 2207/30232** (2013.01); **G06T****2207/20084** (2013.01); **G08B 5/22** (2013.01)(21) Appl. No.: **16/668,180**(22) Filed: **Oct. 30, 2019****Related U.S. Application Data**

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A method includes acquiring a set of images from a plurality of cameras in a monitored environment, detecting a first entity based on the set of images, and determining a first set of locations of the first entity based on locations of the first entity in the set of images. The method also includes acquiring sensor measurements from a plurality of sensors and determining a second set of locations of the first entity based on the sensor measurements. The method also includes determining whether the first set of locations should be associated with the second set of locations based on a confidence factor, and, in response to determining that the first and second set of locations should be associated, determining a sequence of locations of the first entity through the monitored environment.

